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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,891	09/11/2003	Scott Douglas Kaiser	5760-13600	5003
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MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C. P.O. BOX 398 AUSTIN, TX 78767-0398			EXAMINER WACHSMAN, HAL D	
			ART UNIT 2857	PAPER NUMBER
DATE MAILED: 01/19/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/659,891

Applicant(s)

KAISER, SCOTT DOUGLAS

Examiner

Hal D Wachsmen

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-9, 13-18, 21, 22, 24-27, 30, 31 and 33 is/are rejected.
- 7) ☒ Claim(s) 4-6, 10-12, 19, 20, 23, 28, 29 and 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

1. Claims 16-24 are objected to under 37 C.F.R. 1.75(a) for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. Amended claim 16, line 2, now states "a computer system collecting storage demand data for a storage system" however claim 16 is a method claim and as this limitation is written it appears to be an apparatus type limitation referring to a computer system instead of stating for example "using a computer system for collecting..." which would clearly be a step of a method. The examiner asks the applicant to better claim the limitations cited above. While the examiner understands the intentions of the applicant he feels confusion could be drawn from the limitations cited above. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 7, 9, 13-18, 22, 24-27, 31 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Talluri (US 2004/0153481 A1).

As per claim 1, Talluri (Abstract, figures 5, 6, page 3, paragraph 0036) discloses "a processor; and a memory comprising program instructions, wherein the program instructions ...executable by the processor to:". Talluri (Abstract, page 6, paragraphs 0072, 0073, page 8, paragraph 0098) discloses "collect storage demand data for a storage system". Talluri (Abstract, figure 5, page 2, paragraphs 0015, 0016, page 6, paragraphs 0072, 0073, pages 7-8, paragraph 0092, page 8, paragraphs 0096, 0098) discloses "determine a storage requirement for the storage system...given storage availability risk level under one or more conditions indicated by the storage demand data".

As per claim 2, Talluri (Abstract, figure 5, page 2, paragraphs 0015, 0016, page 6, paragraphs 0072, 0073, pages 7-8, paragraph 0092, page 8, paragraphs 0096, 0098) discloses the feature of this claim.

As per claim 3, Talluri (page 2, paragraph 0015, page 5, paragraphs 0061-0063, 0065) discloses the feature of this claim.

As per claim 7, Talluri (Abstract, figure 5, page 2, paragraphs 0015, 0016, page 6, paragraphs 0072, 0073, pages 7-8, paragraph 0092, page 8, paragraphs 0096, 0098) discloses the feature of this claim.

As per claim 9, Talluri (Abstract, figures 5, 6) discloses the feature of this claim.

As per claim 13, Talluri (page 2, paragraph 0017) discloses the feature of this claim.

As per claim 14, Talluri (page 1, paragraphs 0007-0009) discloses the feature of this claim.

As per claim 15, Talluri (Abstract, page 6, paragraphs 0072, 0073, page 8, paragraph 0098) discloses the means for collecting storage demand data for a storage system. Talluri (Abstract, figure 5, page 2, paragraphs 0015, 0016, page 6, paragraphs 0072, 0073, pages 7-8, paragraph 0092, page 8, paragraphs 0096, 0098) discloses the means for determining one or more conditions as well as the means for determining a storage requirement for the storage system.

As per claim 16, Talluri (Abstract, page 6, paragraphs 0072, 0073, page 8, paragraph 0098) discloses "a computer system collecting storage demand data for a storage system". Talluri (Abstract, figure 5, page 2, paragraphs 0015, 0016, page 6, paragraphs 0072, 0073, pages 7-8, paragraph 0092, page 8, paragraphs 0096, 0098) discloses "the computer system determining a storage requirement..to meet a given storage availability risk level...indicated by the storage demand data."

As per claim 17, Talluri (Abstract, figure 5, page 2, paragraphs 0015, 0016, page 6, paragraphs 0072, 0073, pages 7-8, paragraph 0092, page 8, paragraphs 0096, 0098) discloses the feature of this claim.

As per claim 18, Talluri (page 2, paragraph 0015, page 5, paragraphs 0061-0063, 0065) discloses the feature of this claim.

As per claim 22, Talluri (Abstract, figures 5, 6) discloses the feature of this claim.

As per claim 24, Talluri (page 2, paragraph 0017) discloses the feature of this claim.

As per claim 25, Talluri (Abstract, page 6, paragraphs 0072, 0073, page 8, paragraph 0098) discloses the collecting step. Talluri (Abstract, figure 5, page 2, paragraphs 0015, 0016, page 6, paragraphs 0072, 0073, pages 7-8, paragraph 0092, page 8, paragraphs 0096, 0098) discloses the determining step.

As per claim 26, Talluri (Abstract, figure 5, page 2, paragraphs 0015, 0016, page 6, paragraphs 0072, 0073, pages 7-8, paragraph 0092, page 8, paragraphs 0096, 0098) discloses the feature of this claim.

As per claim 27, Talluri (page 2, paragraph 0015, page 5, paragraphs 0061-0063, 0065) discloses the feature of this claim.

As per claim 31, Talluri (Abstract, figures 5, 6) discloses the feature of this claim.

As per claim 33, Talluri (page 2, paragraph 0017) discloses the feature of this claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 8, 21 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Talluri (US 2004/0153481) in view of Jacobus et al. (US 20040068455).

As per claims 8, 21 and 30, Talluri (Abstract, figure 5, page 2, paragraphs 0015, 0016, page 6, paragraphs 0072, 0073, pages 7-8, paragraph 0092, page 8, paragraphs 0096, 0098) discloses the feature of this claim with the exception of clearly disclosing the lead time to acquire new storage. However, Jacobus et al. (page 5, paragraph 0069) teach that availability is the fraction of the demand that the firm would actually get from its suppliers at sufficient lead time to avoid shortages. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to apply the techniques of Jacobus et al. to the invention of Talluri as specified above and consider the lead time to acquire new storage, because the amount of lead time in acquiring new storage would be of significant importance in avoiding shortages of storage space.

6. The following references are cited as being art of additional general interest: O'Brien et al. (US 2004/0225659 A1) which disclose the planning of *usage demands* for a storage product, Nishio et al. (US 2003/0014604 A1) disclose the *capacity* of storage area *demanded* by a client disk array device, Knippel et al. (6,839,822) which disclose maintaining an inventory of memory with **demand-monitoring**, Manin (6,751,718) which discloses the determination of both calculated and actual **memory demand** and Koclanes et al. (US 2004/0243699 A1) which disclose policy based management of storage resources and the delivery of **storage on demand**.

7. Claims 4-6, 10-12, 19, 20, 23, 28, 29 and 32 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and subject to the appropriate correction of the 37 C.F.R. 1.75(a) objection noted in paragraph 1 above.

8. Applicant's arguments filed 12-6-04 have been fully considered but they are not persuasive with respect to the art rejections that remain above. With respect to the Talluri reference, on page 15 of the reply the Applicant argues that "Talluri's system does not collect or use any data pertaining to demand for a storage system". However, Talluri (page 8, paragraph 0098, lines 13-17) clearly states:

"A stable and predictable response to rapid increases in demand for storage resources is now achieved with the ability to dynamically tailor this response to match changing requirements".

In addition, such a concept was indeed well known in the prior art, and additional evidence of this has been provided in the Knippel et al., Manin and Koclanes et al. references noted in paragraph 6 above and can also be found in the Karpoff (US 2003/0135385 A1, see paragraph 0068) reference which was cited as art of interest in the prior Office action and discloses a YottaDisk system that allows *demand-based consumption of storage*. On page 15 of the reply the Applicant also argues "Instead, as discussed above, Talluri teaches a system in which storage is segmented into nodal and global storage on each storage server node, and if local nodal storage lacks sufficient capacity, the storage server node writes the data to the node manager (NM)

which then writes the data to selected global storage". However, with respect to the above argument concerning the segmentation of storage, the Applicant is arguing unclaimed merits or distinctions. The Applicant also argues on page 15 that "Talluri's system clearly has nothing to do with determining a storage requirement for a storage system". However, the Examiner respectfully disagrees, because as shown in paragraph 0098 referred to above in responding to the demand for storage resources and to tailor the response to match the changing requirements, the storage requirement is clearly being determined. In fact, paragraph 0016 of Talluri, lines 1-3, clearly state:

"Another example of a beneficiary of such a storage policy would be an 'application services provider' (ASP) where **storage requirements** and usage rapidly fluctuate".

The Applicant further argues on page 15 of the reply that "Moreover, there is clearly no concept of a storage availability risk level in Talluri, let alone determining a storage requirement for a storage system to meet a given storage availability risk level". However, paragraph 0072, lines 10-21, of Talluri clearly state:

"This information is used to determine the optimum batch size of data to be written to the global storage (GS) of storage server nodes (SN)....thereby *avoiding clogging of the network and straining of the **storage server nodes' (SN) system resources***, which may happen if data is sent at an inopportune time (for instance, when the *storage server nodes' (SN) file system resources are already severely strained*). This information may also be used to define peak usage times and off-peak usage times and to determine a suitable time for the back-up process".

Thus, a storage availability risk level to be able to avoid clogging of the network and straining of the storage server nodes systems resources is clearly being taken into account, as shown above, in the determination of the storage requirement for the storage system. With respect to the arguments concerning the Jacobus et al. reference on pages 16-17 of the reply, the Applicant argues "Moreover, Jacobus pertains to inventory management for manufacturing enterprises (see, e.g., para. [0002]) and has absolutely nothing to do with acquiring new storage for a network storage system such as in Talluri.". However, Jacobus et al. was used to teach the obviousness and motivation for taking into account the lead time in the acquisition of the new storage. Furthermore, Jacobus et al. (paragraph 0002) clearly indicates that one of those manufacturing enterprises includes "**computer** manufacturers" (i.e. manufacture of storage systems for computer systems) and paragraph 0005 of Talluri indicates that for several businesses **the success and often the very existence of the business** depends on **the availability of data at all times**, thus providing additional motivation for taking into account the lead time when acquiring new storage.

9. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hal D Wachsman whose telephone number is 571-272-2225. The examiner can normally be reached on Monday to Friday 7:00 A.M. to 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 571-272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Hal D Wachsman
Primary Examiner
Art Unit 2857